

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please amend claims 1 and 32, and add new claims 36-38.

1. (Currently Amended) A catheter comprising:
an elongated catheter body having proximal and distal ends and at least one lumen therethrough;
a three-dimensional ablation assembly at or near the distal end of the catheter body, said assembly having a framework defining a length and a circumference, the assembly movable into a collapsed configuration with a greater length and a lesser circumference and an expanded configuration with a lesser length and a greater circumference, the framework comprising a plurality of tensile members interwoven in a manner such that the length increases as the circumference decreases and vice versa, and wherein the expanded configuration of the framework has a variable shape that changes to ~~is adapted to readily~~ conform to [[a]] nonuniformly shaped tubular regions;
said assembly also having a ribbon electrode extending along said circumference, said ribbon electrode adapted to move with said framework;
~~a proximal location sensor mounted proximal the ablation assembly;~~
~~a distal location sensor mounted distal the ablation assembly; and~~
a tip electrode mounted at or near a distal end of the ablation assembly.

2. (Original) A catheter of claim 1, wherein said framework of the assembly in the expanded configuration has a first circumference in a first section along its length and a different second circumference in a second section along its length.

3. (Previously Presented) A catheter of claim 1, further comprising an expander attached at or near its distal end to distal ends of the tensile members and extending through the catheter body, the expander having a proximal end that extends out the proximal end of the

Appln No. 10/816,396
Amdt date February 22, 2010
Reply to Office action of September 22, 2009

catheter body, and having a lumen extending therethrough, whereby, in use, the expander can be moved longitudinally relative to the catheter body to expand and collapse the assembly.

4. (Previously Presented) A catheter of claim 1, further comprising an expander attached at or near its distal end to distal ends of the tensile members and extending through at least a distal portion of the catheter body, whereby, in use, the expander can be moved longitudinally relative to the catheter body to expand and collapse the assembly.

5. (Canceled).

6. (Canceled).

7. (Original) A catheter of claim 1, wherein the expander is moved proximally to actuate the assembly into the expanded configuration.

8. (Canceled).

9. (Canceled).

10. (Canceled).

11. (Original) The catheter of claim 3, wherein the expander comprises plastic tubing.

12. (Original) The catheter of claim 3, wherein the expander comprises braided plastic tubing.

13. (Original) The catheter of claim 3, wherein the expander has a proximal end attached to a control handle.

14. (Previously Presented) The catheter of claim 13, wherein the control handle comprises:

Appln No. 10/816,396
Amdt date February 22, 2010
Reply to Office action of September 22, 2009

a handle housing having proximal and distal ends, and a piston having a proximal end mounted in the distal end of the handle housing and a distal end fixedly attached to the proximal end of the catheter body;

wherein the proximal end of the expander is fixedly attached, directly or indirectly, to the handle housing so that longitudinal movement of the piston relative to the handle housing results in longitudinal movement of the expander relative to the catheter body to thereby expand and collapse the assembly.

15. (Original) The catheter of claim 14, wherein the proximal end of the expander extends outside the proximal end of the control handle and through a support tube.

16. (Canceled).

17. (Original) The catheter of claim 3, wherein the expander is generally coaxial with the catheter body.

18. (Original) The catheter of claim 3, wherein the expander forms the axis of the assembly.

19. (Original) The catheter of claim 1, wherein the assembly comprises at least four tensile members.

20. (Original) The catheter of claim 1, wherein each tensile member comprises an internal flexible wire and a non-conductive covering over the flexible wire.

21. (Original) The catheter of claim 20, wherein the internal flexible wire of each wire comprises nitinol.

22. (Original) The catheter of claim 1, wherein the ribbon electrode is elastic.

23. (Canceled).

Appln No. 10/816,396
Amdt date February 22, 2010
Reply to Office action of September 22, 2009

24. (Canceled).

25. (Canceled).

26. (Canceled).

27. (Canceled).

28. (Canceled).

29. (Canceled).

30. (Canceled).

31. (Previously Presented) A catheter of claim 1, wherein the ribbon electrode comprises a plurality of ribbon electrodes, each ribbon electrode extending along a circumference of the framework and being adapted to move with the framework.

32. (Currently Amended) A catheter comprising:
an elongated catheter body having proximal and distal ends and at least one lumen therethrough;

a three-dimensional ablation assembly at or near the distal end of the catheter body, said assembly having a framework defining a length and a circumference, the assembly being movable into a collapsed configuration having a greater length and a lesser circumference and an expanded configuration having a lesser length and a greater circumference, the framework comprising a plurality of tensile members interwoven in a manner such that the length increases as the circumference decreases and vice versa, and wherein the framework is sufficiently flexible that the diameter need not be constant along the length and the length need not be constant along the circumference so that the expanded configuration of the framework has a variable shape that changes to conform to differently shaped interior volumes of nonuniformly-shaped tubular regions;

said assembly also having a ribbon electrode extending along said circumference, said ribbon electrode adapted to move with said framework;

~~—— a proximal location sensor mounted proximal the ablation assembly; and~~

~~—— a distal location sensor mounted distal the ablation assembly.~~

33. (Previously Presented) A catheter of claim 32, wherein the ribbon electrode comprises a plurality of ribbon electrodes, each ribbon electrode extending along a circumference of the framework and being adapted to move with the framework.

34. (Previously Presented) A catheter of claim 1, wherein when the ablation assembly is in the collapsed configuration, portions of the ribbon electrode are tucked inward between the tensile members.

35. (Previously Presented) A catheter of claim 32, wherein when the ablation assembly is in the collapsed configuration, portions of the ribbon electrode are tucked inward between the tensile members.

36. (New) A catheter of claim 1, further comprising a proximal location sensor mounted proximal the ablation assembly, and a distal location sensor mounted distal the ablation assembly.

37. (New) A catheter of claim 32, further comprising a proximal location sensor mounted proximal the ablation assembly, and a distal location sensor mounted distal the ablation assembly.

38. (New) A catheter comprising:
an elongated catheter body having proximal and distal ends and at least one lumen therethrough;

a three-dimensional ablation assembly at or near the distal end of the catheter body, said assembly having a framework defining a length and a circumference, the assembly movable into a collapsed configuration with a greater length and a lesser circumference and an expanded

Appln No. 10/816,396
Amdt date February 22, 2010
Reply to Office action of September 22, 2009

configuration with a lesser length and a greater circumference, the framework comprising a plurality of tensile members interwoven in a manner such that the length increases as the circumference decreases and vice versa, and wherein the expanded configuration of the framework has a variable shape in which the length and circumference vary interdependently to each other to conform to differently shaped surrounding volumes;

said assembly also having a ribbon electrode extending along said circumference, said ribbon electrode adapted to move with said framework.